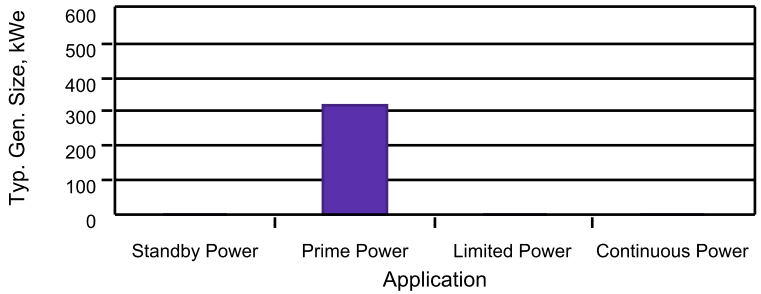
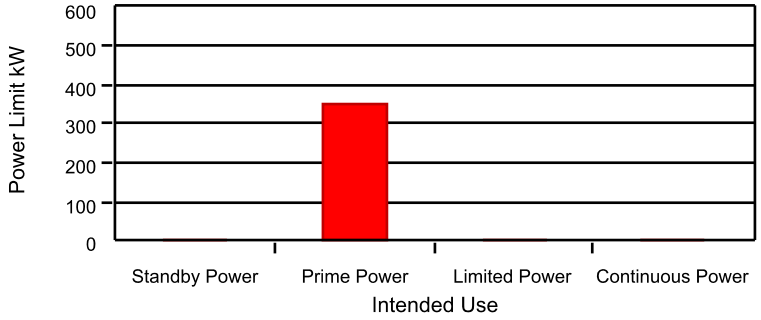
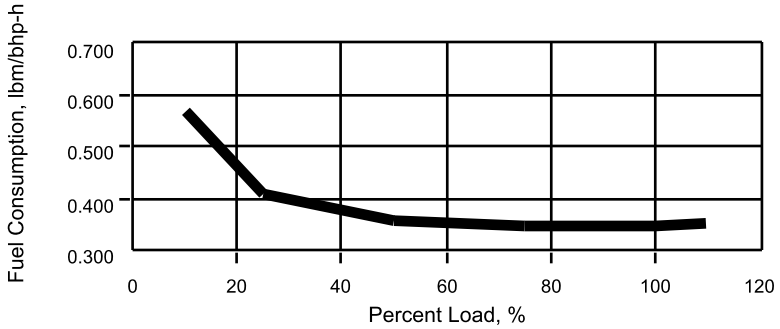
Auxiliary Marine
Series 60 (14.0 L) - 6062HK59
475 bhp @ 1800 r/min

Performance Data
06N04M8118







Available power is shown. Data does not include parasitic losses from fans, accessories, etc. Parasitic losses will vary depending on the final product configuration and reduce the available power accordingly.

Standby Power 60 Hz - 0		
Percent Load, %	Power, bhp	Fuel Consumption, lb_m/bhp-h
10	-	-
25	-	-
50	-	-
75	-	-
100	-	-
110	-	-

Prime Power 60 Hz - 320 kW_e		
Percent Load, %	Power, bhp	Fuel Consumption, lb_m/bhp-h
10	47	0.568
25	119	0.409
50	238	0.355
75	356	0.345
100	475	0.349
110	523	0.352

Limited Power 60 Hz - 0		
Percent Load, %	Power, bhp	Fuel Consumption, lb_m/bhp-h
10	-	-
25	-	-
50	-	-
75	-	-
100	-	-
110	-	-

Continuous Power 60 Hz - 0		
Percent Load, %	Power, bhp	Fuel Consumption, lb_m/bhp-h
10	-	-
25	-	-
50	-	-
75	-	-
100	-	-
110	-	-

Tolerance for power values shown is +2/-0% at the conditions listed.
Tolerance for fuel values shown has not been specified.

Condition	SAE J1228
Air Inlet Temp.	77 °F
Relative Humidity	30 %
Total Baro. Pressure	30 in. Hg
Fuel Inlet Temp.	100 °F
Spec. Fuel Gravity	0.8376
[ref. temp.]	100 °F
Air Inlet Restriction	10 in. H_2O
Exhaust Back Pressure	15 in. H_2O
Raw Water Temp.	77 °F
Min. Fuel Heat Content	20,500 Btu/lb_m
[ref. test spec]	-
Air Density	0.1 lb/ft^3
Fuel Density	6.99 lb/gal (US)
Oil Density	7.50 lb/gal (US)

	Standby Power 60 Hz - 0	Prime Power 60 Hz - 320 kWe	Limited Power 60 Hz - 0	Continuous Power 60 Hz - 0	
Calibration Details					
Control System	-	DDEC IV Electronics	-	-	-
Maximum Power	-	475	-	-	bhp
Maximum Power Speed	-	1800	-	-	r/min
Rated Power Limit	-	475	-	-	bhp
Rated Power Limit Speed	-	1800	-	-	r/min
Typical Low Idle Speed	-	-	-	-	r/min
Typical High Idle Speed	-	-	-	-	r/min
Intended Use	-	Prime Power applications	-	-	-
Cooling System- Engine					
Coolant Capacity in Engine Circuit	-	60	-	-	qt (US)
Coolant Flow Rate in Engine Circuit	-	125	-	-	gal/min (US)
Coolant Flow Rate in Charge Air Circuit	-	46	-	-	gal/min (US)
Heat Rejection to Engine Coolant Circuit	-	12,300	-	-	Btu/min
Heat Rejection to Coolant in Charge Air Circuit	-	4850	-	-	Btu/min
Radiated Heat Rejection	-	1700	-	-	Btu/min
Exhaust System					
Exhaust Flow Rate (volumetric)	-	2256	-	-	ft³/min
Exhaust Temperature	-	745	-	-	°F
Fuel System					
Injector Device	-	EUI	-	-	-
Injection System	-	-	-	-	-
Injector Timing Height	-	81	-	-	mm
Fuel Flow Rate (mass)	-	690.3	-	-	lbm/h
Fuel Flow Rate (volumetric)	-	98.8	-	-	gal/h (US)
Fuel Spill Rate (mass)	-	524.7	-	-	lbm/h
Fuel Spill Rate (volumetric)	-	75.1	-	-	gal/h (US)
Fuel Consumption (mass)	-	165.6	-	-	lbm/h
Fuel Consumption (volumetric)	-	23.7	-	-	gal/h (US)
Heat Rejection to Fuel	-	-	-	-	Btu/min
Intake System					
Engine Air Flow Rate (volumetric)	-	1010	-	-	ft³/min
Intake Manifold Pressure	-	55	-	-	in. Hg
Turbocharger Compressor Outlet Temp.	-	356	-	-	°F

Available power is shown. Data does not include parasitic losses from fans, accessories, etc. Parasitic losses will vary depending on the final product configuration and reduce the available power accordingly.

	Standby Power 60 Hz - 0	Prime Power 60 Hz - 320 kW_e	Limited Power 60 Hz - 0	Continuous Power 60 Hz - 0	
Lubrication System					
Oil Flow Rate	-	34	-	-	gal/min (US)
Oil Pressure	-	50	-	-	$lb_f/in.^2$
Oil Consumption (mass)	-	0.17	-	-	lb_m/h
Oil Consumption (volumetric)	-	0.09	-	-	qt/h (US)
Additional Information					
Altitude Capability	-	-	-	-	ft
Brake Mean Effective Pressure (BMEP)	-	245	-	-	$lb_f/in.^2$
Compression Ratio	-	16.0	-	-	: 1
Friction Horsepower	-	57.7	-	-	fhp
Mean Piston Speed	-	1984	-	-	ft/min
Turbocharger	-	GTA42 (0.91 A/R)	-	-	-

Available power is shown. Data does not include parasitic losses from fans, accessories, etc. Parasitic losses will vary depending on the final product configuration and reduce the available power accordingly.

Cooling System - - Engine		
Min. Coolant Flow Rate in CAC Circuit	41.4	gal/min (US)
Min. Coolant Flow Rate in Engine Circuit	112.5	gal/min (US)
Max. Coolant Out Temp. in Engine Circuit	198	°F
Max. CAC Water Pump Discharge Pressure (Exclusive of Pressure Cap)	14.5	$lb_f/in.^2$
Max. Engine Water Pump Discharge Pressure (Exclusive of Pressure Cap)	21.3	$lb_f/in.^2$
Max. Water Pump Static Pressure Head	-	$lb_f/in.^2$
Max. External Restriction in CAC Circuit	4.4	$lb_f/in.^2$
Max. External Restriction in Engine Circuit	5.9	$lb_f/in.^2$
Min. Engine Coolant Fill Rate	3.0	gal/min (US)
Min. Drawdown	-	%
Max. Dearation Time	30	min
Min. Pressure Cap	7.0	$lb_f/in.^2$
Max. System Pressure (Exclusive of Pressure Cap)	27.6	$lb_f/in.^2$
Min. Top Tank Coolant Temp.	180	°F

Crankshaft System		
Max. Radial Load- Crankshaft	-	lb_f
Max. Continuous Load- Thrust Bearing	900	lb_f
Max. Intermittent Load- Thrust Bearing	1800	lb_f
Max. Shock Load- Thrust Bearing	-	lb_f
Max. Vertical Load at Rear Face of Flywheel (†)	2000	lb_f
Max. Static Bending Moment at Rear Face of Block	1000	$ft\text{-}lb_f$

(†) The weight of the flywheel must be included with the OEM components.

Electrical System		
Max. Resistance of Starting Circuit - 12 V System	0.0012	Ω
Max. Resistance of Starting Circuit - 24 V System	0.002	Ω
Rec. Battery Capacity - 12 V System	1875	CCA
Rec. Battery Capacity - 24 V System	950	CCA

Exhaust System		
Max. Exhaust System Back Pressure	2.5	in. Hg
Rec. Dry Exhaust Pipe Dia. - Single	6.0	in.
Rec. Dry Exhaust Pipe Dia. - Dual	8.0	in.
Rec. Wet Exhaust Pipe Dia. - Single	8.0	in.
Rec. Wet Exhaust Pipe Dia. - Dual	8.0	in.

Fuel System		
Max. Fuel Inlet Temp.	158	°F
Max. Fuel Pump Suction for Clean System	6.0	in. Hg
Max. Fuel Pump Suction for Dirty System	12.2	in. Hg
Rec. Primary Fuel Filter Size	30	micron
Max. Secondary Fuel Filter Size	8	micron

Intake System		
Max. Ambient to Intake Manifold Temp. Differential	-	°F
Max. Ambient to Turbo Compressor Inlet Temp. Rise	25	°F
Max. CAC System Total Pressure Drop	-	in. Hg
Max. Crankcase Pressure	3	in. H_2O
Min. Engine Room Vent Area	-	ft^3
Max. Intake Manifold Pressure	-	in. Hg
Max. Intake Manifold Temp.	-	°F
Max. Intake Restriction for a Clean Air Cleaner	10	in. H_2O
Max. Intake Restriction for a Dirty Air Cleaner	20	in. H_2O
Rec. Intake Pipe Dia. - Single	8.0	in.
Rec. Intake Pipe Dia. - Dual	8.0	in.

Lubrication System		
Max. Change in Oil Pressure from Engine Out to Oil Cooler Inlet for Remote-mounted Filters	-	in. H_2O

Auxiliary Marine
Series 60 (14.0 L) - 6062HK59
475 bhp @ 1800 r/min

Emission Data
06N04M8118

Certification Summary	
Certification Code (CWC)	6152
US Marine (Tier II, Category 1)	Not certified.
US Marine (Tier II, Category 2)	Certified.
US Marine (Tier II, Category 3) [Note: equivalent to IMO]	Not certified.

Compliance Summary	
IMO MARPOL 73/78 Annex VI	Yes.
BSO Pleasurecraft	No.
Rhine River/EU Inland Waterways	No.
State of Brandenburg	No.

Available power is shown. Data does not include parasitic losses from fans, accessories, etc. Parasitic losses will vary depending on the final product configuration and reduce the available power accordingly.

Emission Data

D2 - Cycle Emissions

Engine Load	10%	25%	50%	75%	100%	Cycle Value
			g/h			g/bhp·h
CO	127	83.6	96.6	137	319	0.47
HC	37.0	25.8	22.0	17.6	15.2	0.09
SO_2 - with 0.5% sulfur content fuel	61.1	110	191	279	376	-
SO_2 - with 0.05% sulfur content fuel	6.1	11.0	19.1	27.9	37.6	-
Particulates	19.0	16.6	28.0	29.6	54.7	0.10
NO_x	352	612	1285	1880	2210	4.76
Smoke						
Bosch No.					-	

Emission levels of the engine may vary as a function of ambient temperature, barometric pressure, humidity, fuel type and quality, installation parameters, measuring instrumentation, etc. The data provided are laboratory results from one engine representing this rating. The data was obtained under controlled environmental conditions with calibrated instrumentation traceable to the United States National Bureau of Standards and in compliance with US EPA regulations found at 40 CFR Part 89 (Control of Emissions From New and In-Use Nonroad Compression-Ignition Engines). The weighted cycle value from each engine is guaranteed to be below the US EPA Standards at the US EPA defined conditions.

Frequency, Hz	Surface, dB(A)	Exhaust, dB(A)	Structureborne Longitudinal, dB(A)	Structureborne Transverse, dB(A)	Structureborne Vertical, dB(A)
40	-	-	-	-	-
80	-	-	-	-	-
100	-	-	-	-	-
125	-	-	-	-	-
160	-	-	-	-	-
200	-	-	-	-	-
250	-	-	-	-	-
315	-	-	-	-	-
400	-	-	-	-	-
500	-	-	-	-	-
630	-	-	-	-	-
800	-	-	-	-	-
1000	-	-	-	-	-
1250	-	-	-	-	-
1600	-	-	-	-	-
2000	-	-	-	-	-
2500	-	-	-	-	-
3150	-	-	-	-	-
4000	-	-	-	-	-
5000	-	-	-	-	-
6300	-	-	-	-	-
8000	-	-	-	-	-
10,000	-	-	-	-	-
12,500	-	-	-	-	-
16,000	-	-	-	-	-
20,000	-	-	-	-	-
Total	-	-	-	-	-

Conditions and Tolerances

Data Tolerance	Tolerance for values shown has not been specified.	Tolerance for values shown has not been specified.	Tolerance for values shown has not been specified.	Tolerance for values shown has not been specified.	Tolerance for values shown has not been specified.
Test Standard	not specified	not specified	not specified	not specified	not specified
Comments	not specified	not specified	not specified	not specified	not specified

Camshaft	
UPC Group Number	06X01B6092
Type	Gear-driven
Location	In the cylinder head
Material	Bar stock (SAE 1513)
Surface Finish - Journal	Ground finish
Surface Finish - Lobe	Injector & Exhaust: Thielenhaus honed, Intake: Ground finish

Camshaft Bearing	
Type	Two-piece design
Material	Trimetal (Steel backed bronze with lead overlay)
Mean Effective Length [MEL]	1.486 in.
Mean Journal Diameter [MJD]	2.559 in.
Projected Area [per bearing]	3.80 in.²

Connecting Rod	
Type	"I"-section
Material	Forged, steel alloy - SAE 4140

Connecting Rod Cap	
Type	-
Material	Forged, steel alloy - SAE 4140

Connecting Rod Crank Pin Bearing	
Type	Precision, half-shell design
Quantity [per journal]	2
Material - Lower Bearing	Trimetal (steel-backed, bronze, and lead overlay)
Material - Upper Bearing	Trimetal (steel-backed, bronze, and lead overlay)
Mean Effective Length [MEL]	1.705 in.
Mean Journal Diameter [MJD]	3.346 in.
Projected Area [per bearing]	5.70 in.²

Crankshaft	
Type	One-piece
Material	Forged, steel alloy - SAE 1548
Surface Finish - Journal	Induction hardened
Type of Balance	Dynamic

Crankshaft Main Bearing	
Type	Precision, half-shell design
Quantity [per journal]	2
Material - Lower Bearing	Trimetal (steel-backed, bronze, and lead overlay)
Material - Upper Bearing	Trimetal (steel-backed, bronze, and lead overlay)
Mean Effective Length [MEL]	1.547 in.
Mean Journal Diameter [MJD]	4.921 in.
Projected Area [per bearing]	7.61 in.²

Crankshaft Thrust Bearing	
Type	-
Quantity	-
Mean Effective Length [MEL]	- in.
Mean Journal Diameter [MJD]	- in.
Projected Area [per bearing]	- in.²

Cylinder Block	
UPC Group Number	06A01 6043
Type	Inline cylinder block
Material	Cast iron

Cylinder Head	
UPC Group Number	06A02 6013
Type	One-piece slab, 4 valves per cylinder
Material	Cast iron
Air Management	Cross-flow

Cylinder Liner	
UPC Group Number	06A02 6013
Type	Wet, replaceable liner
Material	Bainitic cast iron

Exhaust Valve	
Type	Poppet valve with rotator
Material - Head	-
Material - Stem	-
Operating Mechanism	Overhead camshaft with rocker arm
Type of Lifter	Roller follower
Quantity [valves per cylinder]	2
Quantity [springs per valve]	1

Exhaust Valve Insert	
Type	Replaceable design
Material	Iron-based

Intake Valve	
Type	Poppet valve with rotator
Material	Iron-based
Material - Head	-
Material - Stem	-
Operating Mechanism	Overhead camshaft with rocker arm
Type of Lifter	Roller follower
Quantity [valves per cylinder]	2
Quantity [springs per valve]	1

Intake Valve Insert	
Type	Replaceable design
Material	Nickel-based

Piston	
Type	Cross-head design
Material - Crown	Steel
Material - Skirt	Aluminum
Cooling	Oil- cocktail shaker with p-tube

Piston Pin	
Type	Polished and hardened
Material	Steel alloy - SAE 8622
Wrist Pin Keepers	Circlip design

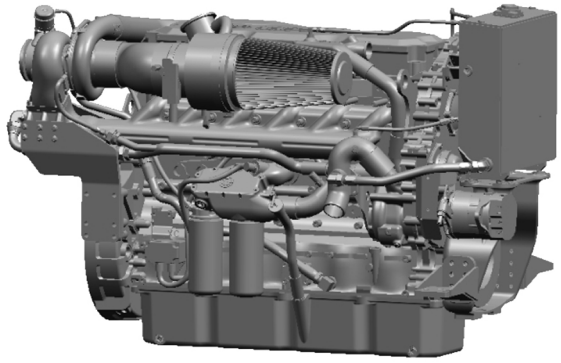
Piston Pin Bearing	
Type	One-piece bushing
Material	Brass

Piston Ring, Compression	
Top Ring	Keystone - CKS, barrel face design
Second Ring	Keystone - chrome, barrel-tapered face design
Quantity [per piston]	-

Piston Ring, Oil	
Type	Double rail with expander, conformable
Quantity [per piston]	1
Location	Bottom of piston dome

Auxiliary Marine
Series 60 (14.0 L) - 6062HK59

Engine Configuration Data Summary



Description	
Model Number	6062HK59
Number of Cylinders	6
Bore	5.24 in.
Stroke	6.61 in.
Displacement - per cylinder	142 in.³
Displacement - total	855 in.³
Aftertreatment	No Aftertreatment Device
Aspiration	Turbocharged
Application Cooling System	Keel Cooled
Combustion System	Direct Injection
Charge Air Cooling System	Separate Circuit Charge Cooling (SCCC)
Electronic System	DDEC IV Electronics
Engine Type	Inline Engine
Ventilation	Closed Engine Crankcase
Status	Available
Availability Date	01 SEP 2004
Discontinued Date	-

This model is approved for onboard gen set applications.

Size	
Overall Length	72.25 in.
Overall Width	42.67 in.
Overall Height	47.65 in.

Weight	
Approximate Dry Weight	3290 lbm
Approximate Wet Weight	3519 lbm

Center of Gravity for a Dry Engine	
Distance from Rear Face of Block: x-axis	18.51 in.
Distance above Crankshaft: y-axis	7.72 in.
Distance to the Right of the Crankshaft: z-axis	1.03 in.